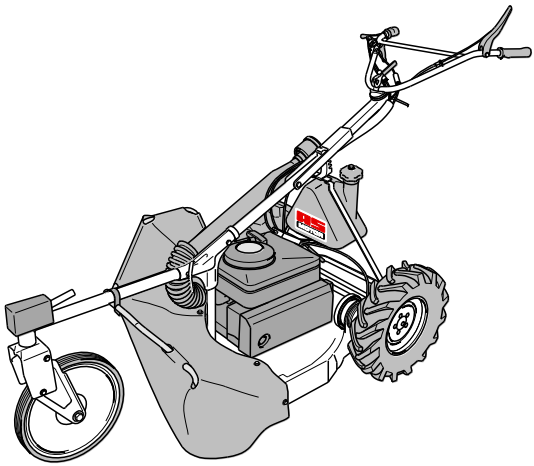
Operating Instructions



Allmäher®

AS 28 2T

From serial number: 020111040021
Issued: 18. February 2015, V14.0
EN-Translation of the Original Operating Instructions

Preface

Please fill in all data referring to your device. When ordering spare parts, provide your dealer with the device and engine number.

Serial number:

Pleases adhere the sticker from the warranty card here.

Engine number:

Date of purchase:

Address of dealer:

Dear customer:

Congratulations on your purchase. You have acquired a reliable quality product by “AS-Motor Germany”.

This product has been manufactured according to modern manufacturing methods and comprehensive quality assurance measures. Only when you are satisfied with your device, we have attained our goal.

Read these operating instructions carefully and attentively so that your device operates smoothly and you and others are safe from any hazards. If you have questions concerning your device, please contact your dealer or call our customer service (telephone +49/(0)7973/9123-0). For international AS partners, please see: www.as-motor.de/worldwide.

“AS-Motor Germany” wishes you much joy with your new device.

Intended use

The device is exclusively intended for cutting grass or similar vegetation in well maintained areas in agriculture, forestry, and landscape conservation that are mowed at least once a year.

Only use attachments and cutting tools authorised by “AS-Motor Germany”.

Any use exceeding this purpose is inadmissible. The manufacturer is not responsible for any damage resulting from this. Observe the required maintenance and repair measures.

The user of the device is responsible for accidents or damage to other persons or their property!

The device **must not** be used:

– To cut hard objects, rocks, rubble, or pieces of wood.

– To trim bushes, hedges, and shrubbery.

– To cut plants in flower pots or planters or on rooftops.

– To clean (vacuum) footpaths.

– As shredder for shredding tree and hedge cuttings.

– As drive unit for work tools and any type of tool sets that are not authorised by “AS-Motor Germany”.

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Explanation of the symbols

Symbols in the instructions

In these operating instructions, the following symbols are used to denote special dangers.

Warning.
These symbols denote special dangers.

Prohibition sign.
These symbols denote inadmissible procedures.

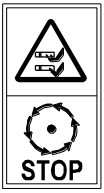
Directive sign.
These symbols denote required protective measures.

Symbols on the device

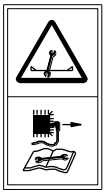
The following symbols are placed on the device to inform you must be careful and attentive when using the device:

Working with the device requires extreme cautiousness.
Read the operating instructions before you use the device.

Risk of injury!
Make sure that no one is within the danger zone of the device. Objects may be ejected. The danger zone extends for at least 50 metres.



The quickly rotating blade can cause life threatening injuries or immense property damage! Be especially careful to keep your hands and feet away from the blade when the device is put into operation.



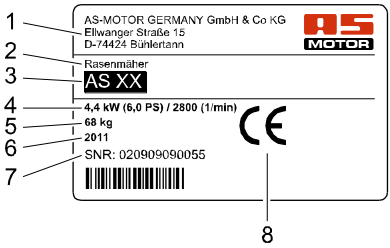
Prior to any repair and maintenance work, pull off the spark plug connector.

Clean the ventilation grid!
The cooling air of the motor is sucked in through the ventilation grid of the engine cover. Always keep the entire surface open and free!

Noise is causing health problems. Use personal ear protection to avoid hearing damage.

Type plate

The type plate on the device provides you with information on the device type and the technical data.



1 Name and address of the manufacturer
2 Device designation
3 Type designation
4 Rates power output in kW / engine speed
5 Weight
6 Year of manufacture
7 Serial number
8 CE marking

Safety instructions

Get informed!

For your safety, read these operating instructions with care. Familiarize yourself with the control elements and the proper use of the device. Share these operating instructions with other users of the device.

Before you use the device for the first time, let the dealer instruct you regarding safe use.

Get familiar with the device in a wide, open and flat terrain first.

User restrictions and hours of operation

Never allow children or persons who are not familiar with the operating instructions to use the device. Persons under 18 years of age may operate the device only under proper supervision. Local regulations determine the minimum age of the operator und the operating times.

Unsuitable for operation of the device are persons who

– are under the influence of alcohol, drugs or reaction retarding medicines.

– have physical and mental/emotional impairments.

– are tired or sick.

People fitted with pace makers are not allowed to touch any current carrying parts of the ignition system.

Safe handling of fuel

Danger!
Fuel is toxic and highly inflammable.

Danger of fire and explosion!

Keep the fuel away from ignition sources and do not smoke while handling the device.
Do not inhale fuel vapours; they are dangerous to your health.

Use gloves and avoid skin contact with the fuel.

Fuel up outdoors only when the engine is cool and not running. Use a filler or funnel.

Do not spill any fuel and do not let the fuel get into the canalisation or ground water.

If you spilled fuel, do not start the device until the fuel vapours have evaporated (wipe dry). Move the device away from the area where the fuel was spilled.

Always close the tank cap securely and do not open it while the engine is running or the device is still hot.

Drain the fuel tank only when outdoors. Use a suitable container or run the tank empty.

Keep the fuel away from children and store it in a suitable container in a dark, cool, and dry location.

Never park the device with fuel in the tank inside a building where fuel vapours could come in contact with open fire or sparks.

Immediately replace a damaged fuel tank or tank cap (authorised dealership).

First aid

When swallowing fuel or inhaling fuel vapours, do not force vomiting and immediately consult a doctor.

In case of skin contact, immediately wash with water and soap. Change your soiled clothing as soon as you can.

Measures in case of a fire

In case of a fire, use foam, dry powder extinguisher, or carbon dioxide (CO_2). Never douse with water!

Check the device prior to use

Prior to use, check the blade, protection skirt, drive and fastening parts for proper working condition and firm seating by visual inspection.

Never use the device with defective or missing covers or protection skirt or protection bow.

Do not remove, change or override any safety devices or control elements.

Observe the maintenance instructions and replace damaged or worn parts immediately.

Have an authorised service centre check your device if the blade does not stop within 7 seconds.

Use caution during operation

Do not start the engine

– if fuel was spilled.

– in closed or poorly ventilated rooms (danger of poisoning!).

– if there are other persons nearby.

Only start the device when your feet are at a safe distance to the blade.

During startup of the engine, do not tilt the device.

Do not touch the engine or the silencer. They become very hot during operation and you can get burned. Resulting unintentional movements constitute an additional injury hazard.

Switch off the engine and wait until the blade comes to a standstill

– before you tilt or transport the device.

– if you step away from the device, even for just a short time.

– when you drive on surfaces other than grass.

– before you adjust the cutting height.

– before you refuel.

Switch off the engine and wait until the blade comes to a standstill, and pull off the spark plug connector

– before you clean or check the device or before you carry out work on the device.

– before you unblock or unclog the discharge area.

Prior to mowing

Personal protective measures

While mowing, always wear sturdy footwear with good grip, long trousers, and gloves. Do not mow in open sandals or bare feet.

Noise is causing health problems. Use personal ear protection to avoid hearing damage. Wear safety glasses and headgear.

Ask your specialised dealer about suitable protective equipment.

Preparing the mowing area

Prior to mowing, carefully check the perimeter of the lawn. Remove rocks, pieces of wood, bones, wires, and other objects that could be picked up and thrown out by the device.

Use caution when mowing

Risk of injury

Stay within shouting distance to other people who can help you in case of an emergency.

Danger!
Risk of injury caused by thrown out objects.

Never mow while persons, children, pets, or property are in the vicinity.

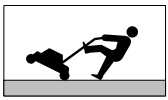
The danger zone extends for at least 50 metres.

The area in front of and to the right of the device is especially dangerous.

Keep your hands and feet away from the rotating parts. Keep a distance to the ejection area while working with the device.

Only mow during daylight or with adequate artificial lighting. Never mow in the event of uncertain weather conditions and risk of lightning.

Be especially carefully when mowing on soft ground, nearby landfills, ditches and dikes.



Avoid mowing wet grass - slipping hazard!

Be extremely cautious when turning the device round or pulling it toward you and when moving in reverse.

Always walk slowly!

Never lift or carry the device when the engine is running.

When using the device over a longer period of time, vibrations can cause disturbances in the blood supply of the hands. A generally accepted usage time cannot be determined. Use gloves.

Take breaks on time.

Have an authorised service centre check the device immediately

– if the blade hit an object.

– if the device starts to vibrate unusually severely.

Caution when mowing slopes

When mowing slopes, there is a risk of slipping and tilting!

1. Only mow steep slopes when safe operation assured.
2. Do not mow excessively steep slopes.
3. When mowing steep slopes, meet the appropriate safety measures, e.g. use step irons.
4. Always mow in horizontal directions, never up- or downwards.
5. Sure footing is essential for your safety, always wear skid proof safety shoes.
6. Be extremely careful when changing the direction.
7. Only mow when the surface is dry and non-slip.

The device can roll away when you mow downhill. Put the device down on even surfaces only and prevent inadvertent rolling.

Mowing surfaces with fire hazard

– Carry a sufficient amount of suitable extinguishing agent.

– If side inclination is too great, fuel may leak from the carburetor or the tank. This poses a fire hazard!

– Observe the mowed surface also after moving is completed to ensure that no fire will start.

To avoid risk of fire, keep the following components free of dirt, grass, hay, leaking oil, grease, etc.:

– Engine

– Silencer (manifold, guard, clearances)

– Area around the fuel tank

When work is completed

After mowing, always close the fuel valve.

Prior to leaving the device, wait until the engine comes to a standstill and pull off the spark plug connector.

After switching it off, let the device cool down for at least 20 minutes before you store it in a dry, closed, sufficiently ventilated room.

Never store the device when there is fuel in the tank inside a building where fuel vapours might come into contact with open fire or sparks.

Use caution during maintenance and repair

Only carry out maintenance work as described in these operating instructions. Have an authorised service centre carry out all other work.

Only use the knives and spare parts authorized by “AS-Motor Germany”. Unauthorized knives and spare parts can cause severe injuries.

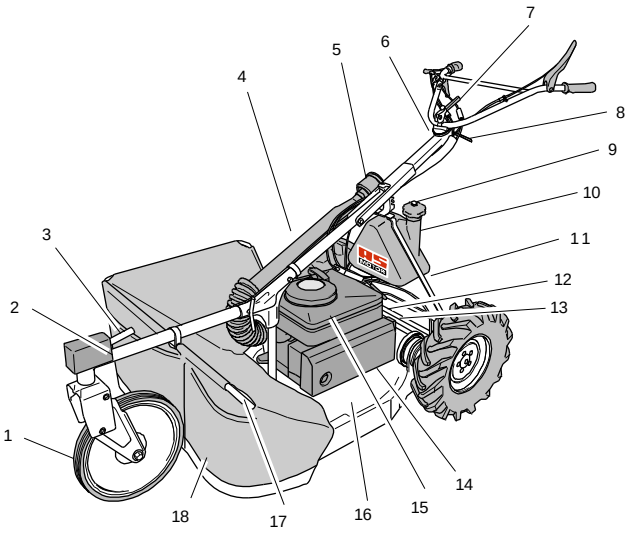
Prior to all maintenance work, wait until the engine comes to a standstill and pull off the spark plug connector.

We explicitly point out that, in accordance with the Product Liability Act, we are not liable for damages that were caused by our devices if

– worn or damaged parts were not repaired or replaced on time.
– these damages were caused by improper repair.
– when changing a part, our original parts or parts authorised by use were not used.
– the repair work was not carried out by an authorised service station.

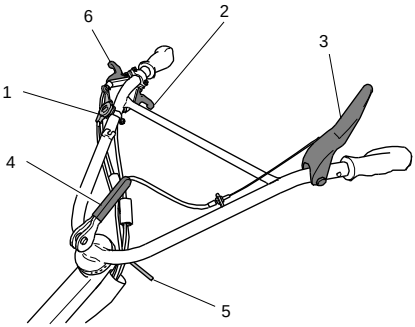
The same applies for spare parts and accessories.

Device description



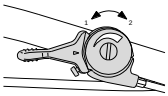
1 Steerable front wheel
2 Interlock steerable front wheel
3 Cutting height adjustment
4 Choke
5 Air filter
6 Starter grip
7 Lever for lateral adjustment of handle-bar
8 Tie rod height of bar
9 Tank ventilation
10 Tank filler spout
11 Fuel valve
12 Spark plug connector
13 Type plate
14 Silencer
15 Ventilation grid
16 Cover
17 Protection bow
18 Protection skirt

Control elements



Throttle lever (1)

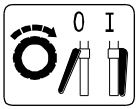
With the accelerator lever, you change the engine speed and thus control the engine output.



1: Neutral position
2: Full throttle

Drive lever (2)

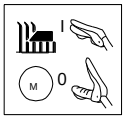
With the drive lever, you switch the drive on and off.



Drive on (I):
Press the lever towards the handlebar and continue to hold.
Drive off (0):
Release the lever.

Engine brake lever (3)

The engine brake lever is a protection device. When you release the lever, the engine shuts down immediately, the blade comes to a standstill within 7 seconds.



Blade/engine on (I):
Press the lever towards the handlebar and continue to hold.
Blade/engine off (0):
Release the lever.

Lever for lateral adjustment of handlebar (4)

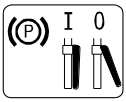
1. Release the eccentric tension lever.
2. Attention: Do not crush the Bowden cables when pivoting the handlebar.
   Swivel the handlebar to the side to the desired position.
3. Clamp the handlebar with the eccentric tension lever.

Lever for height adjustment of handlebar (5)

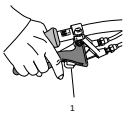
1. Pull the tie rod (5) backwards and move the guide bar to a position that is comfortable to you.

Rear wheel brake lever (6)

You need brakes when going downhill and when you switch off the device. To brake you must release the drive lever.



Brake on (I):
Press the lever towards the handlebar and continue to hold.
Brake off (0):
Release the lever.



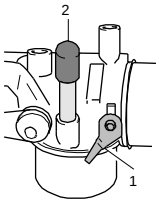
Parking brake on (I):
Press the lever towards the handlebar and press the catch (1).

Carburetor with choke and tickler

The choke (**1**) and the tickler (**2**) are required for the cold engine start.

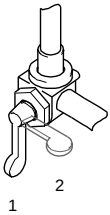
Opening the choke:
Turn clockwise to the stop.

Closing the choke:
Turn anti-clockwise to the stop.



Filling carburetor with fuel:
Press the tickler briefly until the fuel flow starts.

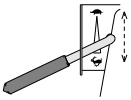
Fuel valve



1: Open
2: Closed

Switching lever

With the switching lever you adjust the driving speed.



Slow:
Pull the switching lever upwards.

Fast:
Press the switching lever downwards.

Assembly

Scope of delivery

The device is delivered in a carton.

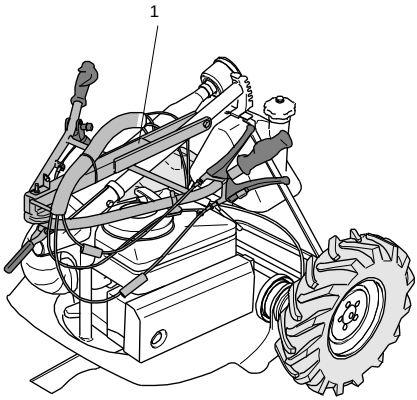
The scope of delivery includes:

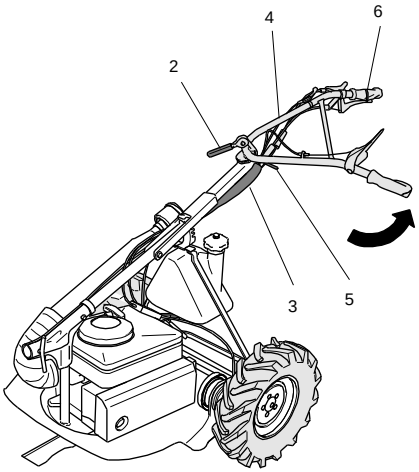
– The device.
– These operating instructions.
– Warranty card.
– Protection bow.
– Protection skirt.
– Front wheel.
– Side panel.
– Tool bag with small items.

Unpacking

1. Remove the loose parts from the box (protection bow, protection skirt, side panel, front wheel, and cardboard inserts).
2. Cut open the front side of the box.
3. Bring the handlebar up (see guide bar and handlebar).
4. Check the air pressure in the tires (see Technical data).

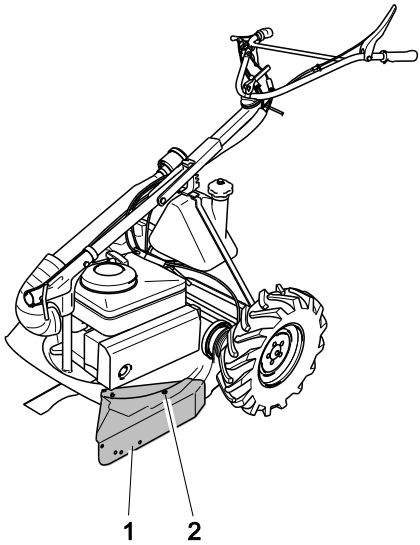
Guide bar and handlebar



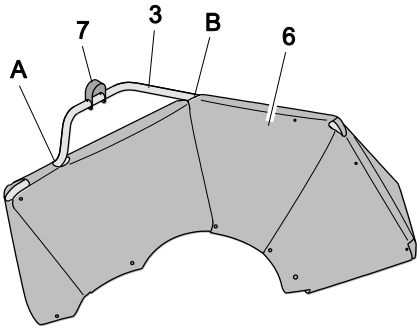


1. Swing the guide bar (**1**) back.
2. Slacken the hexagon nut at the eccentric lever (**2**).
3. Attention: Do not crush the Bowden cables (**3**) when pivoting the handlebar. Swivel the handlebar (**4**) in an anti-clockwise direction backwards and clamp it down with the eccentric lever (**2**).
4. Turn in the hexagon nut until the eccentric lever (**2**) can be tensioned with normal force and is parallel to the guide bar.
5. Adjust the guide bar by pulling the tied rod (**5**) to the desired height. Make sure that the Bowden cables are laid without any tension.
6. Push the device out of the box on its rear wheels.
7. For the first time assembly, remove the factory installed cable ties (**6**) from the drive lever.

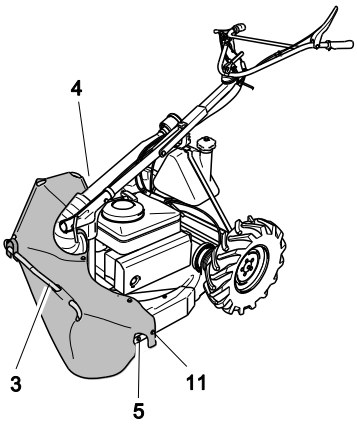
Protection skirt and steerable front wheel



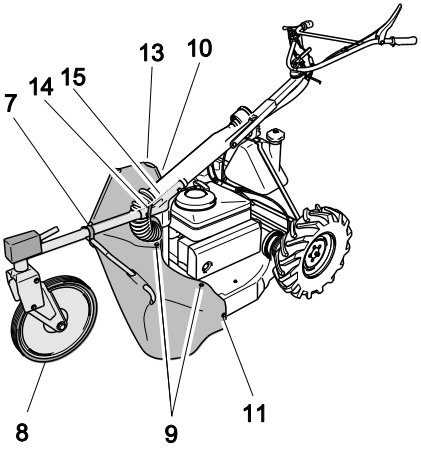
1. Apply the side panel (**1**) on the left front blade hood side to the welding screws.
2. Fasten the side panel onto the rear screw (**2**) with a nut M6 and a washer.



3. Push the protection bow (**3**) from below through the opening (**B**) in the protection skirt (**6**).
4. Push the bow holding device (**7**) onto the protection bow (**3**).
5. Push the protection bow (**3**) downward through the opening (**A**) in the protection skirt.

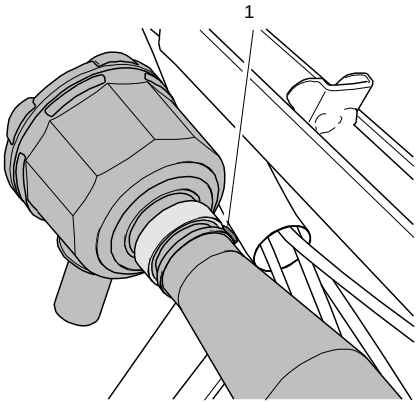


6. Apply the protection bow (**3**) on the right blade hood side to the screw M8 (**4**).
7. Screw in the protection bow at the front hole (**5**) of the side panel with a screw M6, washer and nut. Make sure that the rear hole of the protection bow coincides with the rear hole of the side panel (**11**).



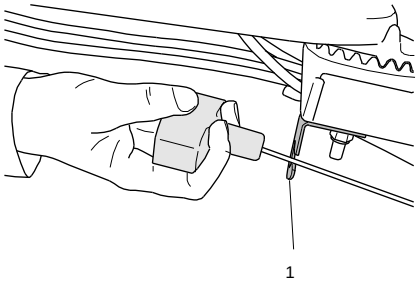
8. Turn the bow holding device (**7**) up to the centre.
9. Push the steerable front wheel (**8**) with the tube end through the bow holding device (**7**) and insert it into the guide bar (**15**).
10. Screw down the steerable front wheel with the toggle screw (**14**).
11. Hang the protection skirt into the screws (**9**) on the blade hood and screw it down with washers and nuts.
12. Screw down the protection bow and the protection skirt at the right side of the blade hood (**10**) with a washer and a retaining nut.
13. Insert the rear screw M6 at the side panel (**11**) and screw down the protection bow and the protection skirt.
14. Fasten the protection skirt at the protection bow with the cable ties (**13**). Use one cable tie for each opening provided in the protection skirt.
15. Close the overlapping protection skirt with a cable tie.

Fastening the air filter



1. Fasten the air filter at the holding bracket with the existing hexagon screw (**1**).

Inserting the starter rope



1. Turn the starter grip guide (**1**) backwards.
2. Insert the starter rope into the starter grip guide (**1**).

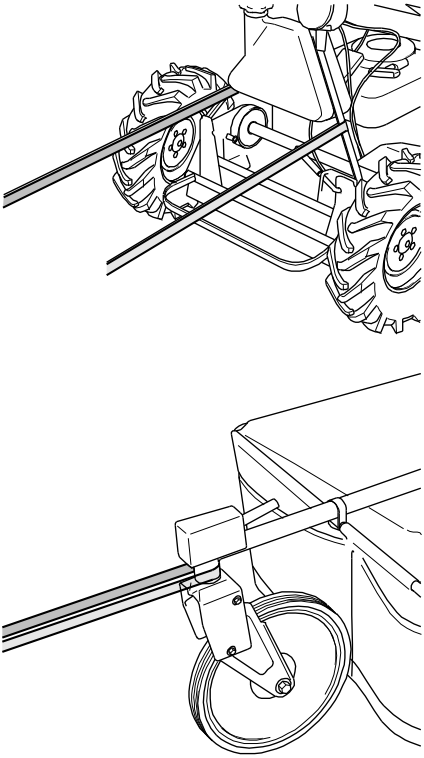
Transport

Switch off the engine and wait until the blade comes to a stop before you lift the device. It takes two persons to safely lift the device.

Prior to transport, let the device cool down for at least 20 minutes. Close the tank ventilation and the fuel valve.

For transport, you can fold up the handlebar and the guide bar and take off the steerable front wheel.

When transporting by vehicle, secure the device against rolling, sliding, tilting, and fuel and oil leakage.



Use tension belts to secure the device.

Beware: To avoid damage to the device, fasten the tension belts exclusively as shown in the illustration. Do not overtighten the tension belts.

Information on mowing

Prior to mowing, check your device for completeness, proper functioning, and cleanliness. A dirty ventilation grid causes overheating of the engine, this can damage the engine. A dirty protective grid at the silencer poses a fire hazard.

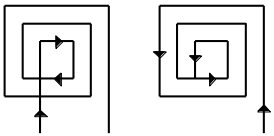
To keep the area well maintained, mow frequently and keep the grass short.

Only mow with a sharp and undamaged blade. Have the blade sharpened and balanced regularly (by authorised service centre).

Do not mow when the grass is wet or when it is raining. The turf may be damaged and there is a danger of slipping!

Turn the device around only in already mown sections. Do not leave the device unattended while the engine is running

For mowing, always turn the accelerator lever to full throttle to achieve the best mowing performance.



To avoid blockage during the ejection of grass, we recommend, for flat terrain, to proceed according to the mowing patterns. Mulch is shredded into much smaller pieces when you mow the terrain once again in the opposite direction.

If the grass is extremely high, mow twice at different cutting height settings.

Prior to starting

Fuel

The engine must be run on a mixture of petrol and two-stroke oil.

For possible mixing ratios, see chapter Mixing ratios fuel.

Use unleaded petrol (octane rating at least ROZ 91). You can use E10 petrol. Do not store E10 petrol longer than 30 days.

Always use synthetic or, even better, fully synthetic two-stroke oil. Mineral two-stroke oil is not recommended.

AS-Motor recommendation:

Fully synthetic two-stroke oil **TITAN 2T 100S** in ratio **1:100**.

Your benefits:

– **Halve oil consumption compared to 1:50**- therefore more environmentally and cost friendly.

– Optimum protection of the engine for a long service life.

– Low engine wear.

– Maximum engine performance.

You can buy Fuchs "**TITAN 2T 100S**" from your AS-dealer:

Container	ET no.
1 litres (resealable bottle)	E06830 G00041042
100 ml (disposable container)	E10286 G00041056
40 * 100 ml (disposable containers in box)	E10561 G00041058

Notice: You can find on the market ready mixed two-stroke fuels. Based on our experience, the ready mixed fuels "STIHL Motomix 1:50" and "ASPEN 2-stroke" can be used. No guarantee can be given for operation of the device with other fuels and oils!

Do not use mixtures with more oil than 1:50 (e.g. 1:35).

Too much oil results in carbon deposits and reduces the service life of the engine.

Only use the synthetic two-stroke oils explicitly intended for mixing.

Use of engine oils or even waste oil results in engine damage.

No warranty is given in these cases.

Storing fuel mixture

The fuel mixture ages and can cause engine damages. Only mix as much fuel as you are going to use up during the next mowing.

Tanking up

Danger!
Fuel is ignited by hot engine parts.
Prior to filling up, switch off the engine and wait for at least 20 minutes until the engine has cooled down. Observe the safety instructions regarding the fuel!

Filling in the fuel:

1. For filling, use a canister with a filler spout or use as funnel.
2. Open the canister carefully so that the existing overpressure is discharged slowly and no fuel spurts out.
3. Open the tank cap carefully so that the existing overpressure is discharged slowly and no fuel spurts out.
4. Fill the fuel tank.
5. Screw the tank cap on tightly.

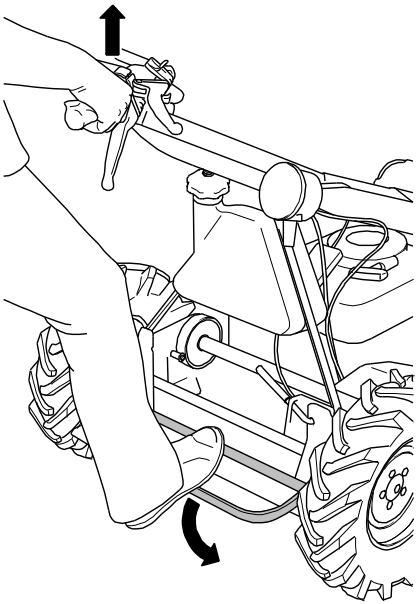
Adjusting cutting height

Adjust the cutting height setting only when the engine is switched off.

Set the cutting height so that the blade does not touch the ground even in case of terrain unevenness. If the cutting height is set too high, objects can be ejected and the "clean cut appearance" can be destroyed.

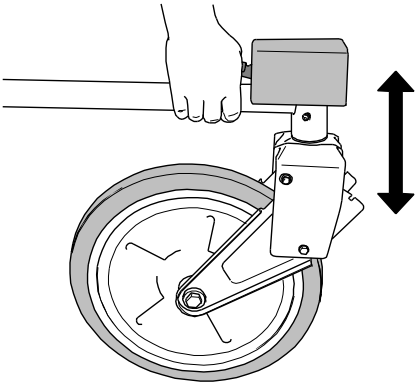
The rear wheel height setting determines the coarse setting of the cutting height. The height of the steerable front wheel determines the fine setting of the cutting height.

Height of rear wheels



1. Switch off the engine and wait until the blade comes to a standstill.
2. Slightly lift the device at the handlebar.
3. With your foot, press down the rear spacer against the locking springs.
4. By lifting or lowering the handlebar, you change the cutting height.
5. Release the spacer and make sure the catches engage into the wheel carriers.
6. The cutting height can be set in 4 stages of 55 mm to 130 mm.

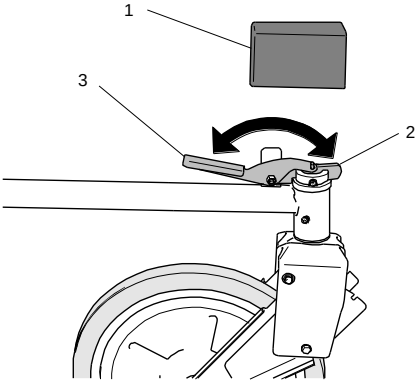
Height of steerable front wheel



1. Reach with your hand below the guide bar of the steerable front wheel and press with the ball of your thumb the lever of the cutting height adjustment downwards.
2. Lift or lower the guide bar to the desired position.
3. Release the lever.

Locking steerable front wheel

On flat terrain, it is more comfortable to leave the front wheel free to pivot. If you mow in horizontal direction, it is necessary to always lock the wheel.



Releasing steerable front wheel

1. Lift off the cover (**1**) of the steering tube.
2. Pull the lock bar (**2**) of the steerable front wheel interlock backwards next to the hand lever (**3**).

3. Push the cover (**1**) back on.

Locking steerable front wheel

1. Align the steerable front wheel parallel to the bar.
2. Lift off the cover (**1**) of the steering tube.
3. Pull the lock bar (**2**) of the steerable front wheel interlock forward.
4. Push the cover (**1**) back on.

Starting

Danger!
During startup, there is a risk of injury caused by the rotating blade.

Make sure that no one is within the danger zone of the blade. Do not tip the device over to one side during startup.

Danger!
If after startup the carburetor does not close properly, fuel will overflow and a fire hazard occurs.

Close the fuel valve and contact an authorised service centre.

Starting device

1. Place the device onto a flat surface, not in high grass.
2. Open the fuel valve and the tank ventilation.
3. Plug on the spark plug connector.
4. Only for cold start: Close the choke at the carburetor (turn anti-clockwise).
5. Press the tickler at the carburetor until the fuel is seen to drip.
6. Put the accelerator lever to lowest engine speed position.
7. Actuate and hold the engine brake lever.
8. Pull the starter point slowly out until you feel resistance then pull out quickly – engine starts to run.
9. Let the starter rope retract slowly.
10. Put the accelerator lever to medium engine speed position.
11. Reopen the choke (turn clockwise).
12. For mowing, set the accelerator lever to the maximum speed.

Driving

Danger!
Risk of injury caused by tripping or sliding while moving the mower backwards and turning it round.

Make sure that the area is clear of objects and watch for safe footing.

Caution!
Driving when the drive and brake are simultaneously pressed can damage the brake.

Release the drive lever when you brake.

Driving

In case of a hazardous situation, switch off the blade by releasing the engine brake lever.

Drive on:

1. Release the brake.
2. Press the drive lever towards the handlebar – device starts moving.

Drive off:

1. Release the drive lever.

Controlling the speed:

1. Release the drive lever.
2. Shift the switching lever.
3. Press the drive lever again towards the handlebar.

When going downhill, actuate the brake and release the drive to control the speed.

Turning

Turn the device round only where the grass has been mowed already.

Turning round on an even surface:

1. Switch off the drive.
2. Turn the device to the desired side.
3. Switch the drive back on.

Turning round on a sloping area:

1. Keep the drive switched on.
2. Turn the device upslope.
3. Hold back the handlebar and the inner wheel.

The drive prevents sliding and supports the turn manoeuvre.

Switching off and parking

Caution!
On a slope, the device can roll away.

Put the device on even ground only or secure it against rolling away.

1. Release the drive lever.
2. Turn the accelerator lever to the lowest engine speed.
3. Release the engine brake lever.
4. Wait until the engine comes to a standstill before you step away from the device.
5. Close the fuel valve and the tank ventilation.
6. Engange the pkaring brake when you park the device on uneven terrain.
7. Pull off the spark plug connector.

Maintenance and cleaning

Regular maintenance keeps your device ready for use.

If you do not observe the maintenance notices, faults may occur that are not covered by the warranty. Operational safety is endangered as well.

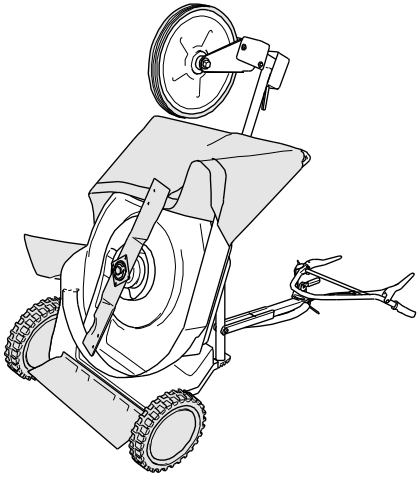
Contact your authorised service centre for checkup if you detect problems during maintenance.

Component	Action	Maintenance interval	
		A	B
Device	Check for safe working condition (basic inspection).	■	▲
	Clean.	■	
	Customer service.		▲
Fuel	Check fuel level.	■	
	Is the tank cap closed?	■	
Tank, fuel valve, and fuel line	Check parts for leaks and check for good condition.	■	▲
Carburetor	Does the carburetor close again after starting?	■	▲
Ventilation grid	Clean.	■	▲
Engine cooling	Clean.		▲
Spark plug	Check/replace.		▲
Air filter	Maintain.	■	■▲
Blade and fastening components	Check for wear and damage. See chapter Checking the blade.	■	▲
	Change.		▲
Motor brake	Does the blade stop within 7 seconds?	□	▲
Drive lever	Does the device stop when the lever is in zero position?	□	▲
V-belt	Are the belts tensioned correctly, without fissures, and in good condition?		▲
Bowden cables	Check for proper function and ease of movement.	■	▲
Acceleration lever	Check for proper function.	□	▲
Chassis and im-	Check for rust and fissures and check the welding seams.	■	▲

pact protection	Are all protective devices and covers in place, fastened correctly and properly functioning?	■	▲
Label	Condition of the labels.	■	▲
Rear wheel brake	Check.	■	▲
Parking brake	Check.	■	▲
Flammable material	Remove easily flammable debris buildup from the engine and the device.	■	▲
Tyres	Check tyres and, if necessary, the tyre pressure.	■	▲
Lubrication	See chapter grease lubrication	■	▲■

A Before and after each use.
B Annually or every 50 h.
■ By the user when the engine is not running.
□ By the user when the engine is running.
▲ By the authorised service centre.

Preparations



Caution!
Risk of injury.
Guide bar can snap back.

To provide secure stand, place the guide bar onto the ground.

Prior to all maintenance and cleaning work:

1. Let the device cool down for at least 20 minutes.
2. Pull off the spark plug connector.
3. Close the fuel valve and the tank ventilation.
4. Release the guide bar by pulling the tie rod and flip the guide bar forward (do not crush the Bowden cables).
5. Tilt the device backwards onto the notching segment of the bar as shown in the figure.
6. Put the guide bar onto the ground.

Cleaning the device

Depending on use, clean the device thoroughly, especially the bottom and the knife.

Grass cuttings and dirt that are stuck interfere with the grass ejection and impair the cutting quality. To sufficiently cool the engine, keep the engine cover, ventilation grid and engine clean.

Fire hazard! Take particular care that the components at the silencer are clean.

For cleaning, use a hand brush. Remove stubborn dirt with a wooden or plastic spatula. Clean the outside housing parts with a cloth.

Do not clean the device with water spray or high-pressure cleaner! Do not use any aggressive cleaning agents.

General inspection

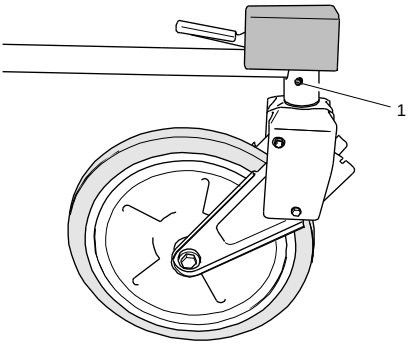
To ensure proper working order of the device, regularly check all nuts, bolts, screws, fuel line connections, air filters, etc. for firm seating. Check the ignition cable and the spark plug connectors for damages.

Immediately replace damaged or worn parts, especially covers, protection skirt, silencers or fuel tank (authorized service centre).

Check all parts that contain fluids for leaks and proper condition. These can be: Fuel tank, fuel valve, fuel lines, carburetor, engine, gears, battery, hydraulic system.

In case of leaks, contact an authorised service centre.

Grease lubrication



A grease nipple (**1**) is attached to the steering tube of the steerable front wheel.

1. Clean the grease nipple.
2. Lubricate the grease nipple with a hand grease gun (1-2 strokes plastic compatible grease).
3. Remove any excess, squeezed out grease from the bearings.

Maintaining the engine

Danger!
If the speed of rotation is set too high, objects can be ejected. The engine can be damaged and noise pollution increases.

Do not change the basic setting of the carburetor or the speed control.

To ensure a long service life of the engine, sufficient engine cooling is required.

Keep the
- engine cover (ventilation grid),
- silencer (protective grid) and
- cooling fins of the engine

clean at all times.

Checking the spark plugs

Danger!
The ignition system generates an electromagnetic field.

Wearers of pacemakers must not work on live parts.

Soiled spark plugs reduce the engine output. Clean the electrode of the spark plug with a brass wire brush. Check the electrode gap (see “Technical data”). Make sure that the insulator around the electrode is not damaged. Never use a damaged spark plug.

Tighten the spark plug with the torque indicated in the technical data.

Maintaining the air filter

Danger!
Cleaning agents pose a fire and explosion hazard.

Never clean the air filter with flammable solvents.

Caution!
A cleaning of the air filter with compressed air damages the filter fabric and the air filter becomes useless.

Change the air filter when it is dirty.

Caution!
When you use air filters from accessory suppliers, the engine can be damaged.

Only use the original AS-Motor air filter cartridges.

Make sure that the air filter is always clean. A dirty air filter reduces the engine performance and leads to increased engine wear and fuel consumption. Irrespective of the operating hours, change the filter insert at least once a year. Cleaning the air filter is not possible. Do not operate the engine without air filter.

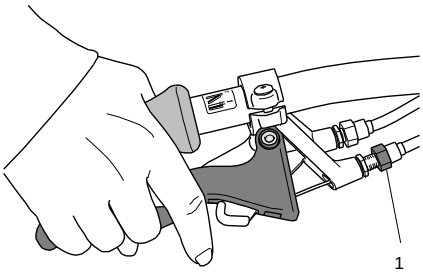
Beware! During filter change, accumulated dirt in the air filter can get into the carburetor and damage it.

1. Screw off the air filter lid.
2. Carefully pull out the filter element. Make sure that no dirt from the inside of the air filter housing enters gets into the carburetor.
3. Close the carburetor with a clean cloth.
4. Clean the inside of the air filter housing carefully.
5. Remove coarse, loose dirt from the filter element by knocking it off. Replace the filter element if the dirt is extensive or caked on.
6. Remove the cloth from the carburetor.
7. Re-insert the filter element.
8. Screw the air filter lid back on.

Checking rear brake

Danger!
If the brakes are incorrectly adjusted, the device can roll away.

Make sure that the brake is always functioning properly.



1. Put the device on a non-slip surface (e.g. concrete or asphalt).
2. Switch off the drive.
3. Actuate the rear brake.
4. Try to move the device.

If the rear wheels lock, the rear brake is correctly adjusted. If you can push the device, the rear brake must be re-adjusted.

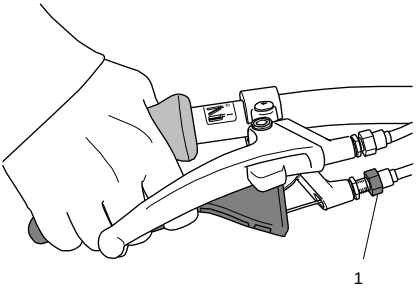
Re-adjusting the rear brake:

Turn the adjusting screw (**1**) at the brake lever until the wheel lock while the brake is applied. When the adjustment is completed and the braking performance still has not improved, have an authorised service centre check the device.

Checking the drive

1. Put the device on a non-slip surface (e.g. concrete or asphalt).
2. Switch off the engine.
3. Actuate the drive.
4. Try to pull the device backwards.

If the rear wheels lock, the drive is correctly adjusted. If you can pull the device, the drive must be re-adjusted.



Re-adjusting the drive

Turn the adjusting screw (**1**) at the drive so that the wheels lock, while the drive is actuated, when the device is pulled. If there is no improvement after the adjustment, have the device checked by an authorised service centre.

Checking the blade

Danger!
Improperly mounted and maintained blades pose a severe injury hazard.

Work at the blade shall only be performed by an authorised service centre.

Wear sturdy gloves when you check the blades.

Work on the blade requires special qualifications because an unbalance test is required and the torques must be observed.

Check the blade and all fastening parts for wear, damage and cracks

– before and after each mowing operation.

– when there are significant changes.

All blade parts shown and their fastening parts must be changed

– when damage or cracks were found.

– At least once a year or every 50 operating hours, regardless of whether there is wear or not. Material wears out, gets cracks which can endanger persons or property.

Vibrations indicate that

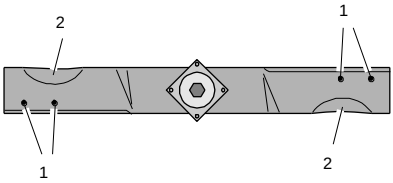
– the blade is worn excessively on one side or

– damage of motor or cutting unit mount (e.g. rubber elements).

Improperly sharpened blades increase the device load and result in fatigue cracks and breakage.

Ejected pieces can cause severe injuries.

Blade change



It is absolutely necessary to change the blade:

– When one of the wear markings (**1**) was reached. Original blade are engraved with wear markings (marking in form of a ball-shaped imprint on the rear side of the blade).

– When the thickness of the blade at the rear edge of the vane (**2**) or at another point is below 1 mm (exception: cutting edge).

Original blade

An original AS-blade is engraved with:

AS GXXXXXXXX or EXXXXX

This corresponds to the spare part number.

When using the device on sandy and abrasive grounds, the wear at the blade is high. A special blade was developed for these applications (for abrasive ground blade, see accessories).

Checking engine brake

Check the function of the engine brake by switching off the engine. The blade must come to a standstill from full speed within less than 7 seconds. Contact an authorised service centre if this is not the case.

Storage

Storing the device

Keep the device in a closed, dry, and well ventilated room and out of reach of children. Always eliminate all problems of the device before you store it so that the device is always in a safe-to-operate state. Let the engine cool down before you store the device in closed rooms.

Longer storage

1. Observe the safety instructions regarding the handling of fuel.
2. Draining fuel tank: Put a piece of a tube on the fuel valve and fill the fuel in an adequate fuel container.
3. Emptying carburetor: Start the engine and let it run until it stops on its own.
4. Clean the device thoroughly.
5. Touch up defects in painting (for spray paint, see Accessories).
6. Performing corrosion protection on the engine:
   - Unscrew the spark plug.
   - Fill a tablespoon of engine oil into the spark plug opening.
   - Pull the starter rope slowly until you get resistance (oil distribution in the cylinder).
   - Re-insert the spark plug and screw in fully.
   - Do not fit the spark plug connector!

In autumn, have your device checked by an authorised service centre!

Restarting

If you want to start the device after a longer storage, carry out the tasks described in chapter Maintenance.

Spare parts

The reliable and safe operation of the device also depends on the quality of the spare parts used. Only use original spare parts and accessories that were approved by "AS-Motor Germany". When foreign parts are installed, the warranty and guarantee shall be void for the foreign part and for the device and for any resulting damage.

Inform your authorised service centre about the device type and serial number of your devices when you order spare parts.

Wear parts

Some parts are wear parts. They wear during use and must be replaced. The warranty does not cover the following parts:

Blades, cutting blades, cutter bars, blade bolts, sliding plates, V-belt, chains, Bowden cables, starter ropes, pressure plates, air filters, spark plugs, disc springs, lock washers, fuses, discs, thrust plates, pressure discs, protection skirts, impact protection, wheels, tires.

Disposal

The device cuts and shreds the plant material in a single operation. Shredded plant material decomposes quickly, can be utilized as fertilizer, and, therefore, be left on the ground.

Dispose of waste oil and fuel in accordance with the local regulations or return it to an oil shop.

Packaging, device, and accessories are made of recyclable materials and must be disposed of accordingly.

Warranty

The conditions of the warranty can be found on the reverse side of your warranty card. Send the filled-out warranty card immediately after the purchase of your device to “AS-Motor Germany” or the supplier. Otherwise, the warranty is no longer valid.

Preserve the proof of purchase or the warranty card that was filled out by the vendor.

Troubleshooting

The following table contains the most frequent problems and their elimination. If more problems occur, contact the closest authorised service centre.

You can find an authorised service centre on our home page www.as-motor.de.

Problem	Possible cause	Remedy
Engine does not start	Engine brake lever is not pressed. Fuel valve is closed.	Press the engine brake lever towards the handlebar. Open fuel valve
	Tank ventilation screw is closed.	Open tank ventilation screw.
	No fuel is in the tank.	Refill fuel.
	Choke is open.	Close the choke.
	Engine was flooded due to too many start attempts.	Unscrew spark plugs and, while the fuel valve is closed, the choke is open and at full throttle, start several times, dry the spark plugs and screw them back in.
	Spark plug connector is pulled off. Air filter is dirty.	Observe the safety instructions! Put spark plug connector back on. Maintain air filter (see also Maintenance and cleaning).
	Spark plugs are sooted, damaged, or incorrect electrode gap. Housing of the mower is jammed.	Clean spark plugs and check electrode gap (see also Maintenance and cleaning). Replace spark plugs if necessary. See also Maintenance and cleaning.
	Poor quality, dirty, or old fuel.	Clean fuel system (authorised service centre). Always use fresh fuel.
	Blade is loose.	Authorised service centre.
Engine starts badly or runs irregularly	Choke is closed. Air filter is dirty.	Open the choke. Maintain air filter (see also Maintenance and cleaning).
	Poor quality, dirty, or old fuel.	Always use fresh fuel.

	Spark plug is sooted, damaged, or incorrect electrode gap.	Clean spark plug and check electrode gap (see also Maintenance and cleaning). Replace spark plug if necessary.
	Housing of the mower is jammed.	See also Maintenance and cleaning.
No drive when drive lever is actuated	Drive belt is insufficiently tensioned.	See also Checking the drive.
The blade slides	Replace friction discs.	Authorised service centre.
Strong vibrations during operation	Unbalance at the blade caused by incorrect sharpening or chips on the blade.	Have blade resharpened and balanced by an authorised service centre. Replace a damaged blade immediately.
	Blade drive shaft is bent due to collisions with foreign objects.	Authorised service centre.
	Engine fastening is loose.	Authorised service centre.
	Blade fastening is loose.	Authorised service centre.
Irregular noises	Loose fastening elements.	Authorised service centre.
	Silencer is defective.	Authorised service centre.
Engine gets hot	Ventilation grid is dirty.	Clean ventilation grid.
	Cooling fins of the engine are dirty.	Have cooling fins cleaned by authorised service centre.
Uneven cut, lawn becomes unsightly	Blade is dull or worn.	Have blade resharpened and balanced by an authorised service centre. Replace a damaged blade immediately.
	Speed is too high proportionately to the cutting height.	Reduce speed and/or select the correct cutting height.
	Housing of the mower is heavily contaminated.	Clean.
	Different tire pressure.	the tire pressure.
Mulching result with high plant material not satisfactory	Speed is too high.	Reduce speed.
Mulching result with low plant material not satisfactory	Plant material is ejected too quickly.	Increase speed.
Discharge channel is jammed	Mowed grass was too long or too damp.	Adjust cutting height and mowing speed to the mowing conditions.

	Blade is worn. Engine speed is too low despite full power.	Authorised service centre. Authorised service centre.
The device does not stop when the brake is actuated	Brake is adjusted incorrectly, worn, or defective.	Authorised service centre.
The device does not stop	Drive belt does not declutch.	Authorised service centre.
The engine does not switch off	Switching off system is defective.	Close the fuel valve. Authorised service centre.
The tires become flat	Thorns or sharp objects damage the tires.	If necessary, use tire protection gel (authorised service centre).

Accessories

Abrasive ground blade:	G06323003	E03442
Hand protection:	G06380070	E09322
Spray paint 400 ml, colour orange:	G00011050	E04606
Operating hours counter:	G06927008	E10740
Clinometer:	G06950027	E11835
Hand protection set:	G06780309	E09382

Mixing ratios fuel

Petrol	Two-stroke oil	Only with Titan 2T 100S
(octane number at least ROZ 91)	**1:50**	**1:100**
Litre	Litre (=ml/cm^3)	Litre (=ml/cm^3)
1	0.02 (20)	0.01 (10)
2	0.04 (40)	0.02 (20)
3	0.06 (60)	0.03 (30)
4	0.08 (80)	0.04 (40)
5	0.1 (100)	0.05 (50)
10	0.2 (200)	0.1 (100)
20	0.4 (400)	0.2 (200)

Do not use mixtures with more oil than 1:50 (e.g. 1:35).

Too much oil results in carbon deposits and reduces the service life of the engine.

Only use the synthetic two-stroke oils explicitly intended for mixing.

Use of engine oils or even waste oil results in engine damage.

No warranty is given in these cases.

Technical data

Type	AS 28 2T
Range of application (temperature)	0 – 30 °C
Engine, Bauart Hersteller type Cylinder capacity Performance Engine speed	One cylinder two stroke engine AS-Motor Germany AS 165 165 cm^3 4.4 kW (6 PS) 4500 min^{-1}.
Spark plug Torque Electrode gap for best starting behaviour	Bosch W7RAC / Beru 14/7AU / Champion L86 / Denso W20FS-U / NGKB6HS-5 25 Nm 0.5 mm
Cutting device, type Cutting width Cutting height Plant growth	Blade 63 cm 55-130 mm front and rear quick adjustment 4-fold to 100 cm
Starting device	Rope start
Drive	Rear wheel drive 2.2 + 4.0 km/h
Maximum area coverage **Measures and weight** Transport size with packaging L/W/H Max. tire dimensions L/W/H Weight **Capacities** Fuel tank **Sound level** Measured sound level L_{WA} Sound level at working place L_{pA} Measurement uncertainty k **Vibrations emission value** Hand-arm-vibrations $a_{h,W}$ Measurement uncertainty U **Tire pressure**	approx. 2500 m^2/h 90/84/74 cm 195/92/99 cm 78 kg 5 litres 107.0 dB according to DIN EN 12733 93 dB according to DIN EN 12733 2.5 dB (A) 3.5 m/s^2 according to DIN EN 12733 2 m/s^2 1.0 - 2.0 bar

AS-Motor Germany GmbH & Co. KG
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Declaration of conformity

We declare that the grassland mower type with serial number	AS 28 2T starting from 020111040021
as brought into circulation by us conforms to all relevant safety and health requirements of the EC directives listed.	2006/42/EG 2004/108/EG 97/68/EG

Function:
The device is exclusively intended for cutting grass or similar vegetation in well maintained areas in agriculture, forestry, and landscape conservation that are mowed at least once a year.

Applied standards: DIN EN 12733

Place where all technical records are filed:
AS-Motor Germany GmbH & Co. KG
Ellwanger Straße 15
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Bühlertann, January 2015

Eberhard Lange
Managing director

By Proxy Frank Einsiedler
Head of development

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Professional technology for gardens and landscapes

Allmäher®	Manoeuvrable meadow mower for extensive green area care. The Allmäher reliably shreds metre-high grass, undergrowth, and weeds.
Ride-on Allmäher®	Ease of use and high area coverage all combined in a compact ride-on mower. Low centre of gravity, optimum weight distribution, and broad wheel base provide you with the best performance on slopes and power reserves.
Rear discharge mower	Professional lawn mower with rear discharge. With wheel drive and infinite speed regulation for exceptional cutting and catching performance in any situation.
Rotary mower	The economic alternative to bar mower. Ideal for fodder production. The grass is not shredded and placed into a pile on the side.
Flail mower	The flail blades are supported movably and avoid rocks and other obstacles and chop the cuttings several times.
Side discharge mower	This solid allrounder has a side discharge, wheel drive, and a housing of 3 mm thick plastic-coated steel.
Mulching mower	Mulching saves both time and money. The mulch stays on the ground and practically disappears into the lawn so that no complex disposal is necessary.
WeedHex	Removes weeds carefully, quickly, and without the use of chemicals: on transport surfaces, walls, curbs, and between interlocking blocks.